

Standard 4 Review Sheet / Key Idea 1

Living Environment

The living things in an area interacting with their physical environment make up an _____.

Organisms which can make their own food by photosynthesis are called _____ or _____.

_____ are herbivores which eat producers.

_____ are consumers which eat primary consumers.

_____ -- organism able to make its own food (usually using the life process of _____)

_____ -- is an organism which depends upon other organisms for its food

_____ -- is the place an organism lives

_____ -- is the role of an organism in the environment, especially its feeding role

** No _____ species can occupy the same ecological _____.

As the number of organisms in an ecosystem and their interactions increase, the stability of the ecosystem _____.

Organize the levels of ecological organization from simplest to most complex.

Life Processes

_____ -- breakdown of food to simpler molecules which can enter the cells

_____ -- the movement of materials within an organism or its cells

_____ -- **(locomotion)** change in position by a living thing

_____ -- removal of waste products by an organism (wastes may include carbon dioxide, water, and urea in urine and sweat)

- _____ -- process which converts the energy in food to _____ (the form of energy which can be used by the cells)
- _____ -- the making of more organisms of one's own kind -- not needed by an individual living thing but is needed by its _____
- _____ -- the ability of an organism to resist disease causing organisms and foreign invaders

Coordination --the control of the various activities of an organism
 (mostly involves the _____ system and
 _____ glands in complex animals)

- _____ -- the production of more complex substances by combining two or more simpler substances
- _____ -- is the maintenance of stable internal state in an organism

Explain how we maintain temperature homeostasis in our bodies.

- _____ -- are groups of cells which perform similar functions
- _____ -- are groups of tissues which perform similar functions
- _____ -- are groups of organs which work together to perform similar functions

Name three cell structures and human body structures which perform the same job and state that job.

- 1.
- 2.
- 3.

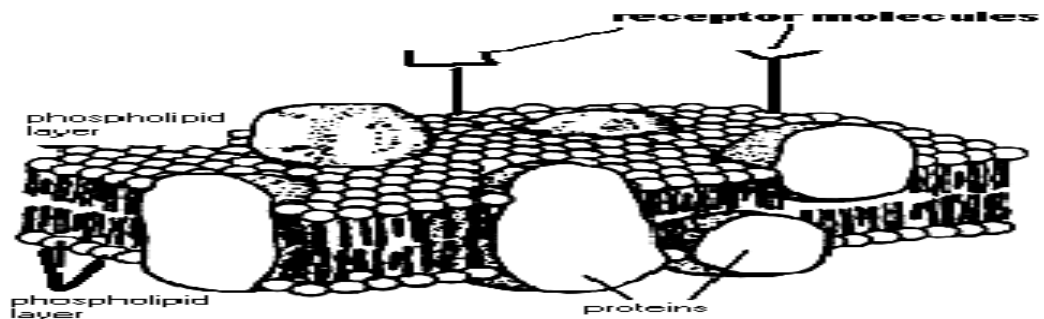
_____ -- cell structure composed of 2 _____ layers
 and _____ which allows materials to
 selectively enter and leave the cell based on
 their _____

List three functions of the cell or plasma membrane.

a.

b.

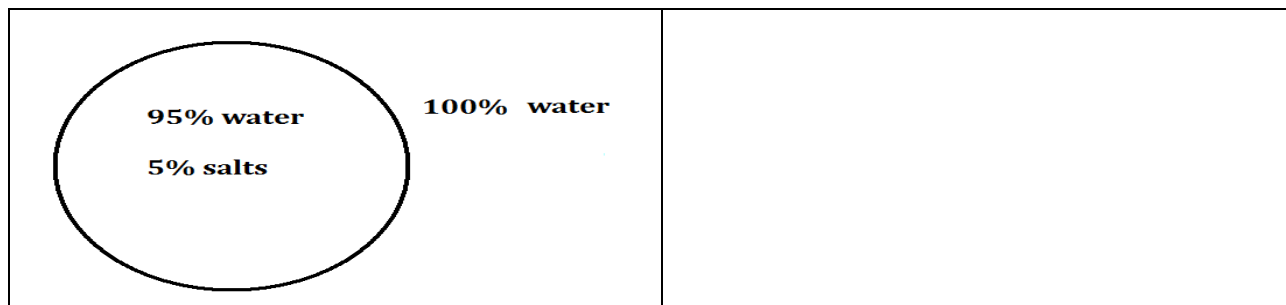
c.



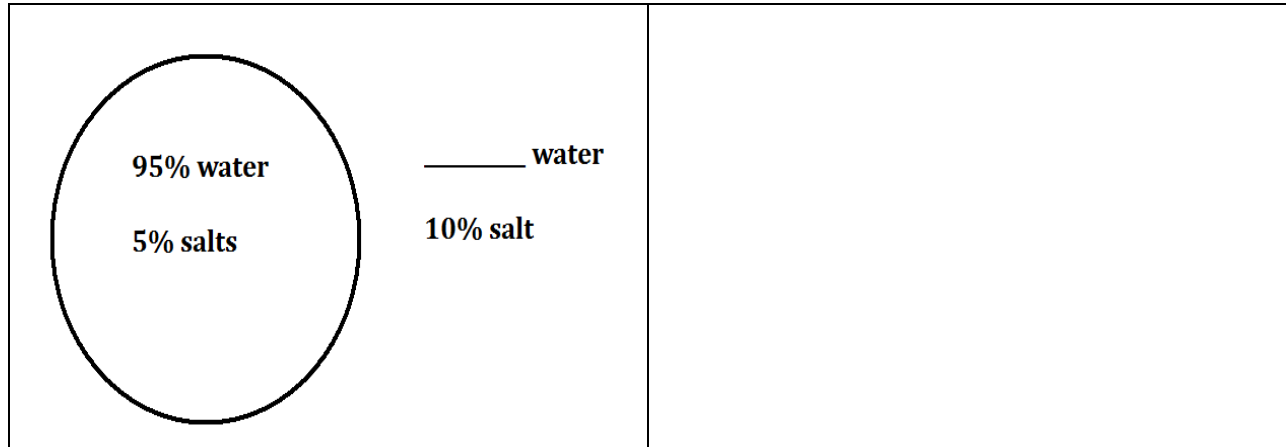
_____ -- is the movement of materials from high to low concentration

_____ -- is the movement of materials from low to high concentration requiring _____

Explain with a labeled picture why a cell placed in distilled water may burst.



Explain with a labeled picture why a cell placed in concentrated salt solution may shrivel.



_____ -- molecules on the surface of cells which can attach to other molecules (like hormones)



Why must digestion (chemical hydrolysis) break down large molecules?

_____ -- are the digestive end products of complete protein chemical digestion

_____ -- are the digestive end products of complete carbohydrate chemical digestion

Glucose is an example of a _____ sugar.

_____ or _____ are complex carbohydrates

Parts of the Cell Theory

- The cell is the unit of _____ in all living things.
- The cell is the unit of _____ in all living things.
- All cells come from _____ cells.

Some Cell Organelles

_____ -- contains DNA which directs the synthesis of _____ by the cell

_____ -- carries on the process of cell _____ converting glucose to **ATP** energy the cell can use

_____ -- responsible for the synthesis of proteins for the cell

_____ -- selectively regulates the materials moving to and from the cell

_____ -- stores and digests food

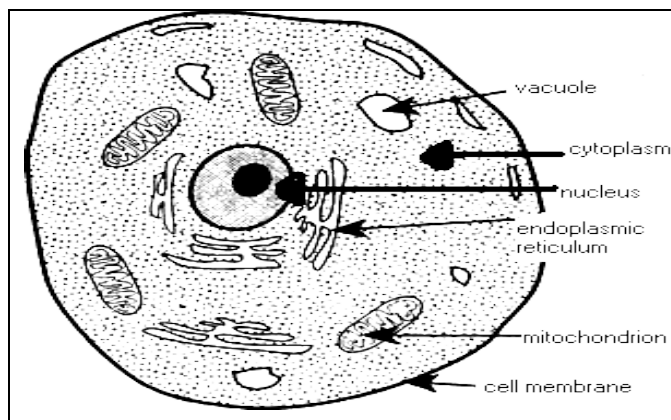
_____ -- pumps out wastes and excess water from the cell

_____ -- found in plant cells and algae carries on the process of photosynthesis

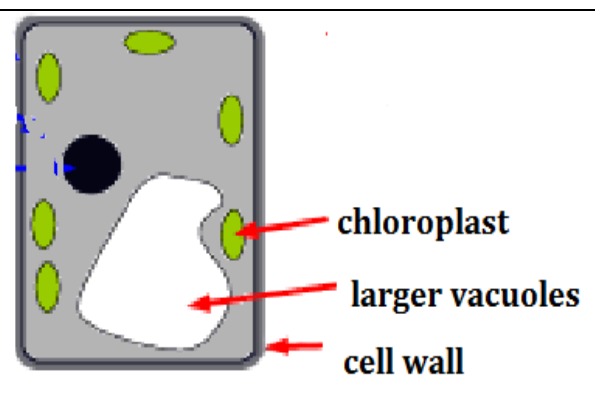
_____ -- surrounds and supports plant cells

** _____ and _____ are found in plants but not in animals

Animal Cell

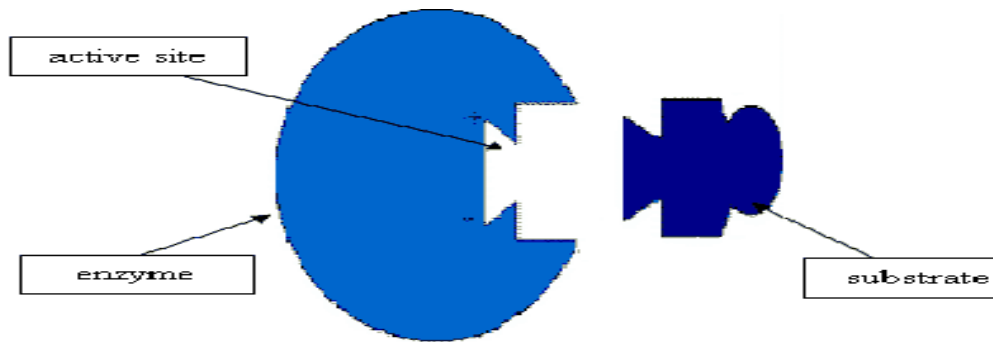


Plant Cell



What is the form of energy cells use? _____

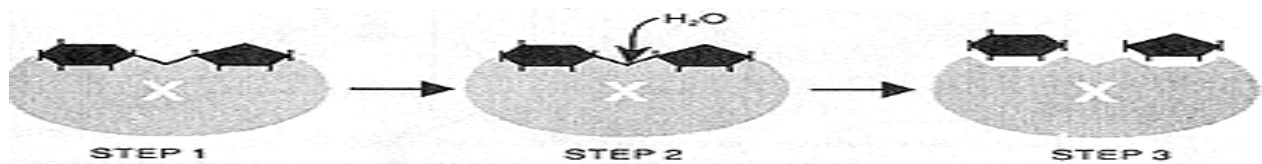
Enzymes



The place where the enzyme fits with the substrate is called its _____.

_____ -- substance which speeds up a chemical reaction without becoming part of the reaction itself

_____ -- an organic catalyst made of mostly _____



What are two ways you can tell an enzyme in a pictured reaction above?

a.

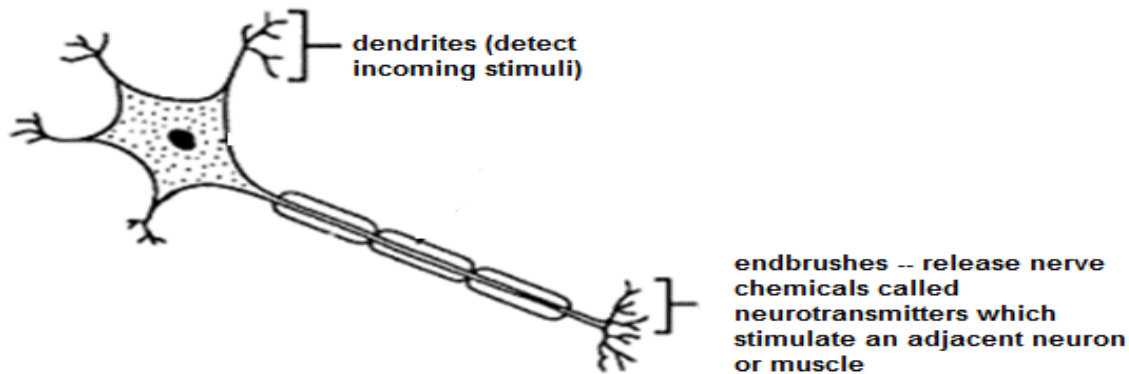
b.

Is this a synthesis or chemical digestion reaction? How do you know?

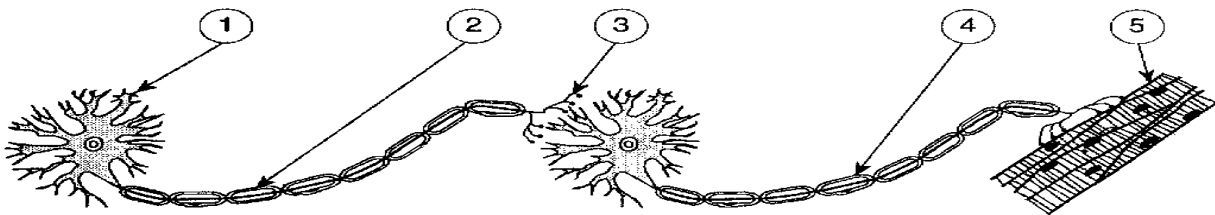
Factors Influencing Enzyme Activity

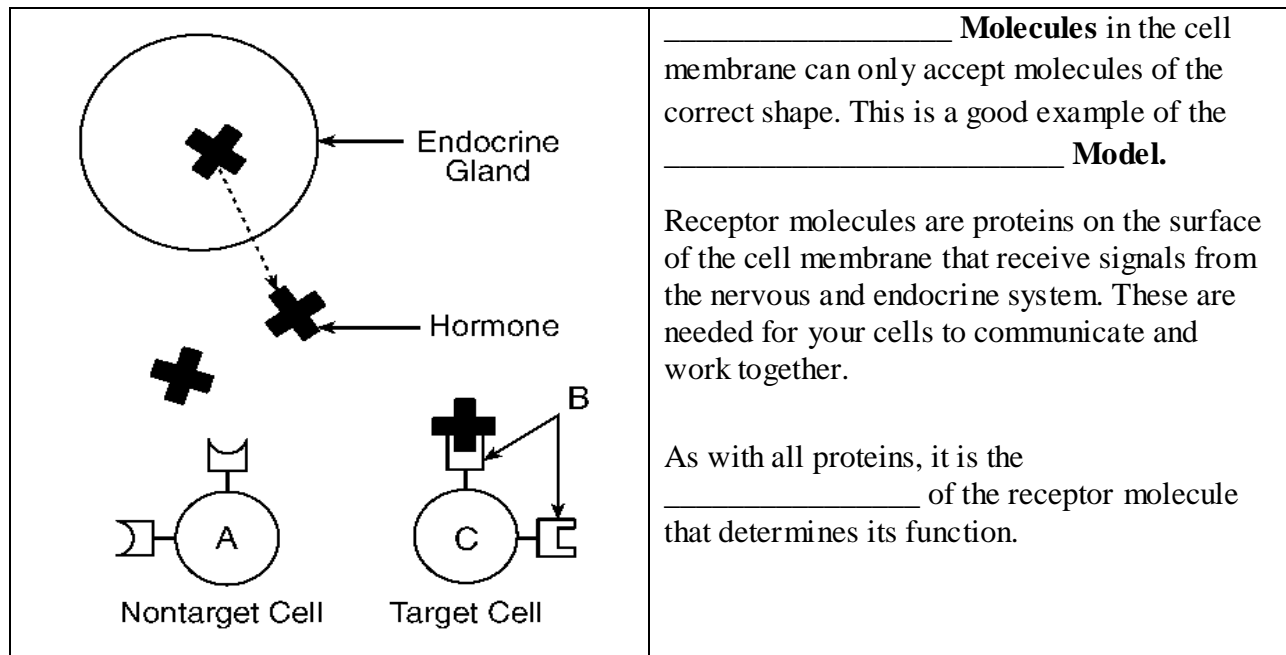
1. _____: the optimum (best) in most living things is close to 7 (neutral).
2. _____: the best is 37 C in most living things ... heating up the enzyme causes it to _____ or change its shape so it no longer fits with its _____
3. The addition of more enzyme or substrate tends to _____ the speed or rate of reaction.

The two primary methods of communication between cells are _____ and _____. If nerve or hormone signals are altered, this changes cellular communication and affects the organism's stability.



Neurons or _____ cells may communicate with other nerve cells or _____.





Central Dogma of Biology

DNA makes → _____ → __codes for amino acids → makes _____

The organelles present in single-celled organisms often act in the same manner as the tissues and systems found in _____ organisms.

Single-celled organisms perform all of the life processes needed to maintain homeostasis, by using specialized _____.